ACTIFERM 1-2

TWO-PART COMPLEX FERMENTATION NUTRIENT.

ACTIFERM 1 promotes yeast growth and a rapid onset of fermentation.

ACTIFERM 2 increases yeasts' resistance to ethanol and accelerates the end of fermentation.

---CHARACTERISTICS AND PROPERTIES---

ACTIFERM 1-2 was developed to optimize and evaluate the level of nutrients required by yeast during the various stages of alcoholic fermentation.

ACTIFERM 1 contains the following:

- **Thiamine (vitamin B1)**: Studies carried out at the INRA Montpellier (UMR SPO) have shown that during yeasting, musts are often depleted of thiamine. In order to ensure correct yeast growth, 0.2–0.3 mg/L of thiamine is required (Sablayrolles).
- **Assimilable nitrogen in the form of ammonia**

The assimilation of nitrogen, at the onset of fermentation, activates protein synthesis and leads to a higher abundance of yeasts. The maximum rate of fermentation is directly related to the amount of assimilable nitrogen in musts.

A high rate reflects rapid onset of fermentation.

The nitrogen content of musts is highly variable and often insufficient; therefore, the addition of nitrogen often leads to an optimal onset of fermentation.

- **A detoxifying support element:**
  It increases the turbidity of musts, playing a supporting role for yeasts and favouring gas release. Recent studies have shown that the level of turbidity has an effect on the fermentability of musts. This effect is due to the lipid fraction of sediments that limit the production of inhibitory fatty acids.

Very intense settling is never recommended in order to avoid stuck fermentations.

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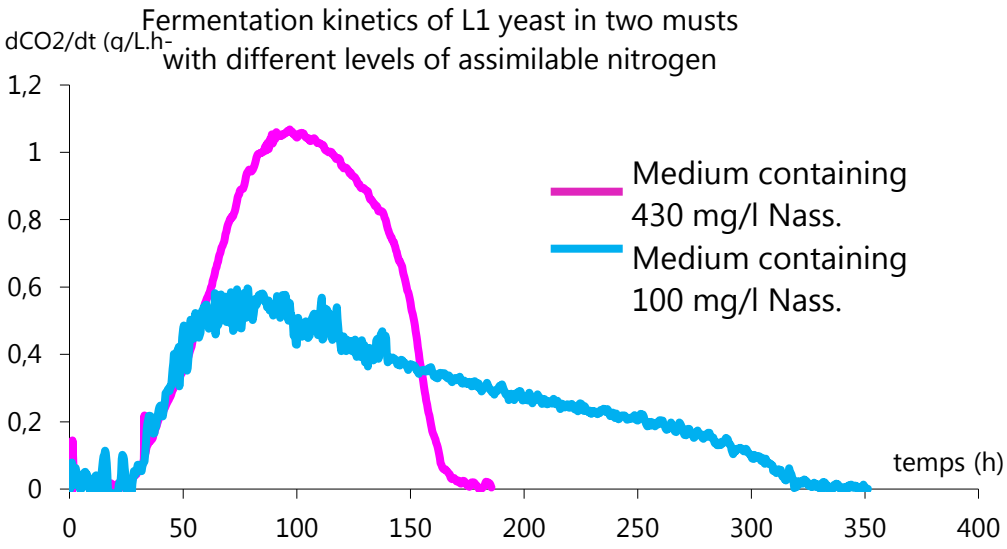
- **specific inactivated yeasts**: They produce organic nitrogen (vitamins and trace elements) and promote yeast growth.



The effects of assimilable nitrogen levels in must on maximum fermentation speed

⇨ **ACTIFERM 1 MUST BE ADDED DURING OF YEASTING**

ACTIFERM 2 contains the following:

- **Ammoniacal nitrogen**: When nitrogen is added mid-fermentation, it does not cause an increase in the number of yeast cells, but it increases the yeasts' nitrogen content. Protein synthesis resumes and there is a reactivation of the sugar transport system. Adding nitrogen mid-fermentation is often more effective than adding it at the onset of fermentation.
- **Specific inactivated yeasts**: Rich in amino acids, they contribute to good fermentation activity and decrease the risk of stuck fermentations.

	DURATION OF FERMENTATION (h)		
NITROGEN CONTENT OF INITIAL MUST(mg N/L)	CONTROLS WITHOUT NITROGEN ADDITION	NITROGEN ADDED DURING FIRST 2 DAYS	NITROGEN ADDED AT MID-FERMENTATION
76	271	205	187
86	278	234	193
146	128	107	103
207	94	79	79
374	93	88	88

Effects of the timing of nitrogen addition (dose of 63 mgN/L) on the duration of fermentation.

⇨ **ACTIFERM 2 MUST BE ADDED MID-FERMENTATION OR AFTER A DENSITY DROP OF 30–40 POINTS.**

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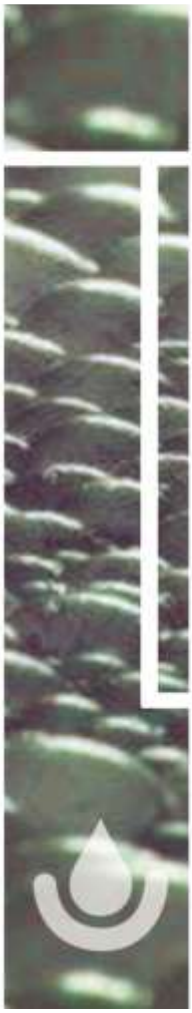

---DOSAGE---

- **ACTIFERM 1**: 20 g/hL (refer to your oenologist's recommendations)
- **ACTIFERM 2**: 20 g/hL (refer to your oenologist's recommendations)

---INSTRUCTIONS FOR USE---

- **ACTIFERM 1**: Dissolve in 10 times its weight of must and add to rehydrated yeasts or directly into the must during yeasting. Pump over to homogenize.

Aeration: Once density drops by 20 points, the addition of oxygen leads to a synthesis of membrane sterols, causing cells to become resistant to alcohol. This addition of about 10 mg/L can be done by direct injection through a sintered disk (Oxyferm or Oxyfritté). The injector is calibrated to determine the addition time.

- **ACTIFERM 2**: Dissolve in 10 times its weight of fermenting must and add to the tank mid-fermentation (or after a density drop of about 30 to 40 points), fairly slowly to avoid overflowing. Whenever possible, it is a good idea to homogenize the vat. The natural mixing created by gas release is normally sufficient.

---LEGISLATION---

Maximum legal dose of thiamine: 0.6 mg/L.
Maximum legal dose of nutrient salts (ammonium sulphate and diammonic phosphate): 1 g/L.

---PACKAGING---

Two packets totalling 1 kg, carton of 20 x 1 kg (500 g of **ACTIFERM 1**+500 g of **ACTIFERM 2**)
Two packets totalling 5 kg, carton of 4 x 5 kg (2.5 kg of **ACTIFERM 1**+2.5 kg of **ACTIFERM 2**)
Two packets totalling 40 kg (20 kg of **ACTIFERM 1** + 20 kg of **ACTIFERM 2**)

---STORAGE---

Store unopened in a dry, dark, and odourless place at a temperature below 25°C.
Use quickly after opening.